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10/646,306	08/22/2003	Gang Yu	UC0206USNA	9200

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EXAMINER	
LUI, DONNA V	

ART UNIT	PAPER NUMBER
2629	

DATE MAILED: 08/22/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/646,306	YU ET AL.	
	Examiner	Art Unit	
	Donna V. Lui	2629	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *08 June 2006*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-36* is/are pending in the application.

4a) Of the above claim(s) *21-36* is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-20* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☒ Claim(s) *1-36* are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *22 August 2003* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All b)☐ Some * c)☐ None of:

1.☒ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

Claim Rejections - 35 USC § 102

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

2. **Claims 1, 8-19** are rejected under 35 U.S.C. 102(b) as being anticipated by Johnson et al. (Pub. No.: US 2001/0035848 A1).

With respect to **Claim 1**, Pichler discloses an electronic device comprising: a first circuit comprising a radiation-emitting circuit element *(See figure 2, element 17)* and a second circuit comprising a radiation-sensing circuit element *(element 11)* for sensing radiation emitted from the radiation-emitting element *(column 6, [0025], lines 30-33; note that to intensify light supplied to the photocathode is equivalent to sensing radiation emitted from the radiation-emitting element)*. Pichler teaches the radiation-sensing element is not part of the first circuit *(Note that there are no connections between element 12 and 11)*.

With respect to **Claim 8**, Pichler discloses an electronic device *(See figure 2)* comprising a first radiation-emitting element lying within a pixel *(element 17)* and a first radiation-sensing element *(element 11)* for sensing radiation emitted from the first radiation-emitting element. Pichler teaches the first radiation-sensing element to lie outside the pixel (*Note that element 11 is not located within the pixel array*) and the radiation-sensing circuit is part of a calibrating system

(column 6, [0025], lines 30-33; note that to intensify light supplied to the photocathode is equivalent to being part of a calibrating system).

With respect to **Claim 16**, Pichler discloses an electronic device *(See figure 2)* comprising a first radiation-emitting element *(element 17)*, a waveguide *(element 12)*, and a first radiation-sensing element *(element 11)*. Pichler teaches the waveguide to optically couple the first radiation-emitting element to the first radiation-sensing element *(since the waveguide is placed between the radiation-emitting element and the radiation sensing element and due to the optical properties of glass, then element 12 optically couples the radiation emitting element to the radiation sensing element)* and the radiation-sensing circuit is part of a calibrating system *(column 6, [0025], lines 30-33; note that to intensify light supplied to the photocathode is equivalent to being part of a calibrating system).*

With respect to **Claim 9**, Pichler teaches the first radiation-sensing element lies at a location between the first radiation-emitting element *(element 17)* and the user side of the electronic device *(the user side is from viewpoint of viewer 31).*

With respect to **Claim 10**, Pichler teaches the electronic device to further comprise a waveguide *(the waveguide is equivalent to glass, element 12)*. Pichler teaches the waveguide to optically couple the first radiation-emitting element to the first radiation-sensing element *(since the waveguide is placed between the radiation-emitting element and the radiation sensing*

element and due to the optical properties of glass, then element 12 optically couples the radiation emitting element to the radiation sensing element).

With respect to **Claim 11**, Pichler teaches the waveguide *(element 12)* to lie at a location between the first radiation-emitting element *(element 17)* and the user side of the electronic device *(the user side is from viewpoint of viewer 31).*

With respect to **Claim 12 and 18**, Pichler teaches the electronic device includes a plurality of radiation-emitting elements *(Pixels, See figure 2, element 17)*, including the first radiation-emitting element, within an array *(Note that since the array has a plurality of pixels, then one can arbitrarily be defined the "first radiation-emitting element").* Pichler teaches the array having an array edge, the waveguide having a waveguide edge adjacent to the array edge, and the first radiation-sensing element is connected to the waveguide edge through optical coupling *(See figure 2, Note that elements 14 and 12 both have an edge that is adjacent to each other).*

With respect to **Claim 13 and 19**, Pichler teaches the electronic device includes a plurality of radiation-emitting elements *(Pixels, See figure 2, element 17)*, including the first radiation-emitting element, within an array *(Note that since the array has a plurality of pixels, then one can arbitrarily be defined the "first radiation-emitting element").* Pichler teaches the array having array edges, the waveguide having waveguide edges adjacent to the array edges, and a plurality of radiation-sensing elements, including the first radiation-sensing element is

connected to the waveguide edges through optical coupling as shown by element 30 in figure 2 *(See figure 2, Note that elements 14 and 12 both have an edges that are adjacent to each other).*

With respect to **Claim 14**, Pichler teaches the first radiation-emitting element is not electrically connected to the first radiation-sensing element *(See figure 2, where no electrical connections are shown between 11 and 12).*

With respect to **Claim 15**, Pichler teaches the first radiation-emitting element is not electrically coupled to the first radiation-sensing element *(See figure 2, since the glass waveguide (element 12) lies between elements 17 and 11 and no electrical connections are present between elements 11 and 12, then it is clearly evident that elements 17 and 11 are optically coupled through element 12).*

With respect to **Claim 17**, Pichler teaches the waveguide *(element 12)* to lie at a location between the first radiation-sensing element *(element 17)* and the user side of the electronic device *(the user side is from viewpoint of viewer 31).*

Claim Rejections - 35 USC § 103

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person

having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

2. **Claims 1-3** are rejected under 35 U.S.C. 103(a) as being unpatentable over Johnson and in view of Stuppi.

With respect to **Claim 1**, Johnson discloses an electronic device *(figure 1, element 1)* comprising a first circuit comprising a radiation-emitting circuit element *(element 6)* and a second circuit comprising a radiation-sensing circuit element *(element 18)* for sensing radiation emitted from the radiation-emitting element *([0023], lines 5; note that the electroluminescent diode (pixel) is equivalent to element 6)*. Johnson shows that the radiation-sensing element is not part of the first circuit *(See figure 1 where the radiation-emitting circuit and radiation-sensing circuit are represented respectively by two different reference numerals, 6 and 18, implying that the separate circuits exist for radiation-emitting and radiation-sensing)* and the radiation-sensing element is part of a calibrating system *(page 2, [0023], lines 3-8)*. Johnson does not explicitly mention that the radiation-sensing element is not part of the first circuit.

Stuppi teaches a radiation-sensing element *(See figure 4, element 26a, 26b, and 26c)* is not part of a first circuit comprised of a radiation-emitting element *(elements 14, 16, and 18, note that in figure 4 the radiation-sensing connections connect to element 30 while the radiation-emitting connections connect to element 20, thus the radiation sensing element is not part of the first circuit)*.

It would have been obvious for a person of ordinary skill in the art at the time the invention was made to have a radiation-sensing element such that it is not part of a first circuit comprised of a radiation-emitting element, as taught by Stuppi, to the electronic device of

Johnson so as to reasonably control the chromaticity of the output light by maintaining a defined luminance ratio between red, green, and blue LED arrays *(Stuppi: column 4, lines 20-23).*

With respect to **Claim 2**, Johnson teaches the first circuit is coupled to a first power supply line and a data line *(figure 1, element 6 is coupled to the data line (element 7) and further coupled to a power supply through the data register, since it is well known that a power supply must be connected to the data register for proper functioning).*

With respect to **Claim 3**, Johnson teaches the first circuit is further coupled to a select line and a second power supply line *(figure 1, element 6 is coupled to a select line (element 7) and further coupled to a power supply through a register (element 13), since it is well known that a power supply must be connected to the register for proper functioning).*

3. **Claims 4 and 5** are rejected under 35 U.S.C. 103(a) as being unpatentable over Johnson and Stuppi as applied to claim 1 above, and further in view of Booth, JR et al. (Pub. No.: US 2003/0122749 A1).

With respect to **Claim 4**, the electronic device of claim 1, neither Johnson nor Stuppi mention the second circuit is coupled to a reference potential line and a sense amplifier.

Booth teaches a radiation-sensing element *(See figure 4, element 10)* coupled to a reference potential line *(the reference potential line is equivalent to ground; the radiation-sensing element is coupled to a sense amplifier which in turn is coupled to ground, thus the*

radiation-sensing element is coupled to a reference potential line) and a sense amplifier *(See figure 4)*.

At the time the invention was made it would have been obvious for a person of ordinary skill in the art to use a sense amplifier, as taught by Booth, to the electronic device of Johnson as modified by Stuppi for the purpose of amplifying the photocurrent generated by the OLED sensing light *(Booth: page 2, [0028], lines 17-19)* and so as to maintain overall correct display brightness for the amount of light in the room.

With respect to **Claim 5**, the electronic device of claim 4, Johnson teaches the radiation-sensing circuit to comprise a photodiode, however any photosensor is suitable *(page 1, [0008], lines 1-4)*.

4. **Claims 6-7** are rejected under 35 U.S.C. 103(a) as being unpatentable over Johnson, Stuppi and Booth as applied to claims 1 and 4 above, and further in view of Yuan et al. (Patent No: US 6,509,574 B2).

With respect to **Claim 6**, the electronic device of claim 4, Neither Johnson, Stuppi, nor Booth mention the radiation-sensing circuit comprises a phototransistor. However, Johnson does teach that any photosensor is suitable *(page 1, [0008], lines 1-4)*.

Yuan teaches the use of a phototransistor in a coupling device for an organic light emitting diode *(column 5, lines 50-54)*. It would have been obvious for a person of ordinary skill in the art at the time the invention was made to use a phototransistor, as taught by Yuan to the

electronic device of Johnson as modified by Stuppi and Booth for the purpose of having performance advantages over conventional materials such as the wavelength at which an organic emissive layer emits light may generally be readily tuned with appropriate dopants, while it is more difficult to tune inorganic emissive materials.

With respect to **Claim 7**, Neither Johnson, Stuppi, nor Booth mention that the radiation-sensing element is not electrically connected to the first circuit.

Yuan teaches the radiation-sensing element *(See figure 1, element 102; column 4, lines 26-27)* is not electrically connected to the first circuit *(element 104 is equivalent to the first circuit; column 4, lines 38-40).*

It would have been obvious for a person of ordinary skill in the art at the time the invention was made to have the radiation-sensing element not electrically connected to the first circuit, as taught by Yuan to the electronic device of Johnson as modified by Stuppi and Booth so as to provide safety for the delicate circuit side from strong electrical noise or high voltage *(Yuan: column 4, lines 49-51).*

5. **Claim 20** is rejected under 35 U.S.C. 103(a) as being unpatentable over Pichler as applied to claim 16 above, and further in view of Kobayashi (Pub. No.: 2005/0134171 A1).

With respect to **Claim 20**, Pichler teaches the first radiation-emitting element comprises a transparent anode *(figure 1, element 13; column 5, lines 15-16)* and a cathode *(figure 1, element 15; column 5, lines 22-29).* Pichler does not mention the cathode being transparent. Kobayashi

teaches both a transparent anode *(figure 1, element 5)* and transparent cathode for an organic electroluminescence device *(figure 2, element 21; page 1, [0005], lines 13-15)*. At the time the invention was made it would have been obvious for a person of ordinary skill in the art to use a transparent cathode, as taught by Kobayashi, to the electronic device of Pichler for the purpose of emitting light from a side opposite to the substrate *(page 1, [0005], lines 13-15)* for maximum light transmission.

Response to Arguments

6. Applicant's arguments with respect to **claims 1-3 and 7** have been considered but are moot in view of the new ground(s) of rejection.

7. Applicant's arguments filed June 8, 2006 have been fully considered but they are not persuasive.

With respect to **Claims 1 and 8-19**, Applicant argues that the photocathode of Pichler is not part of a calibrating system as claimed in amended independent claim 1 and that Pichler is silent on any type of calibration for variations in luminous intensity. In page 4, column 6, [0025], lines 30-33, Pichler teaches the photocathode display panel *(See figure 2, element 11)* acts to intensify light supplied to it from the light-emissive panel *(See figure 2, element 10)*. Note that light emitted from the panel varies in intensity according to image data and light intensified by the photocathode is equivalent to calibrating since the photocathode must respond and adjust the sensed radiation.

With respect to **Claims 4 and 5**, Applicant argues that the reference Booth teaches the radiation-emitting circuit and radiation-sensing circuit are part of the same circuit and not the

device as claimed in claim 1. Please note that the reference Booth is used as a reference for only teaching the limitation, "the second circuit is coupled to a reference potential line and a sense amplifier" and modifying the electronic device of the primary reference so as to incorporate such features. Booth is not relied upon as a primary reference.

With respect to **Claims 6 and 20**, Applicant argues both Lu and Kobayashi disclose transparent electrodes for organic electronic devices and are not radiation-sensing elements that are part of a calibrating system. In view of the new grounds of rejection due to amended claim 1, applicant's arguments are considered moot with respect to claim 6, please further note that the limitation of claim 6 does not include transparent electrodes. The reference Kobayashi is used to teach the limitation of having a transparent cathode and modifying the electronic device of the primary reference so as to incorporate such features. Please note that the electronic device of Pichler modified by Koybayashi results in the first radiation-emitting element comprised of a transparent anode and a transparent cathode, thus meeting the limitations of claim 20.

Conclusion

8. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after

the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Donna V. Lui whose telephone number is (571) 272-4920. The examiner can normally be reached on Monday through Friday 8:30 a.m. - 5:00 p.m..

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Amr Awad can be reached on (571)272-7764. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Donna V Lui
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